Old Lab Handbook Writeups

**HR Diagram**

Supplies per table:

Graph paper

Rulers (for drawing axes, not necessary)

Teaching points:

* Talk about the H-R diagram. Again with the axes (Luminosity/Brightness/Magnitude vs. color/wavelength/frequency/spectral class). Remind them that magnitude goes backwards with faint stars having big numbers and bright stars with small numbers. It’s worth mentioning that 1.5 will be **below 1** and -1.5 will be **above -1.**
* Discuss how stellar evolution (particularly off the main sequence) causes a star’s position to change on the H-R diagram. I usually do low-mass star in detail and then a quick high mass star comparison (including explosion via neutrinos).
* They are plotting both sets of data on the same graph (using different symbols).
* Make sure they label their graph (axes, and also the various types of stars).
* We want them to understand that most of the stars in the galaxy are faint red ones.
* They should take turns plotting stuff.
* It is possible for this lab to go very quickly if they divide up the labor. But, all students need to know what each part is, so if they do this make sure that they’re discussing the different sections later.